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APPENDIX R

ADDITIONAL ANALYSES

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Additional Analyses

This appendix includes results of three other analyses conducted as part of this study:

- 1) Demographics and travel characteristics of residents based on proximity to rail/ferry stops *and* high-quality bus lines;
- 2) Travel characteristics by age category; and
- 3) Travel characteristics by jobs-to-population ratio of the station area.

Proximity to Rail/Ferry Stops and High-Quality Bus Lines

In addition to studying proximity to rail and ferry stops, an effort was made to determine the impacts of living in close proximity to high-quality bus lines (lines with headways of 15 minutes or less) as well. However, at the time of this report, a GIS point layer for high-quality bus stops in the Bay Area was not available. Ideally, as this data comes available, the same methodology for the distance to rail/ferry analysis will be used to capture access to bus stops. Lacking the bus stops data, this analysis used another available data source that was developed by MTC staff for a different study.

Transit Planning Areas, or TPAs, were used to re-categorize BATS2000 sample households. TPAs were built from Census blocks and generally form 1-mile buffers around rail stations, ferry terminals, and high-quality bus lines¹. Thus, the analysis using TPAs still includes residents near rail and ferries, but it also allows residents who are near high-quality bus stops to be captured. The limitation of this method is that since TPAs were built using Census blocks, it is not clear at exactly what distance a person actually lives from a station or stop.

Results from the TPA analysis are provided in Table R1. The results are diluted compared to the rail/ferry-only analysis since residents who fall within TPAs do not necessarily have true 1-mile walk access along the street network to a bus or rail/ferry stop. However, trends in transit and non-motorized use are the same: individuals within 1 mile of a high-quality bus or rail/ferry stop are more likely to use transit than residents living farther from a stop.

Differences are even more pronounced by population density. Urban residents within 1 mile of high-quality bus or rail/ferry are between about two and six times as likely to commute by transit than all other groups (including residents within 1 mile but in lower density areas). For non-work trips, urban residents within 1 mile of transit are between about two and ten times as likely to use transit than other groups. Interestingly, urban residents more than 1 mile from a high-quality bus stop or rail/ferry stop have total transit shares that are on par with lower-density residents with 1-mile access. Specifically, bus shares for the urban, greater than 1-mile group are higher than bus shares for high-suburban and low-suburban/rural residents with 1-mile access. This suggests that other bus services in urban areas serve this population.

Walk shares are also highest for urban residents with good access to rail, ferry, and bus stops. However, for both work and non-work trips, urban residents without high-quality bus or rail/ferry

¹ When compared to the walkable network buffers, TPA geographies generally look more like the 1-mile network buffers around rail/ferry stations. However, when compared to circular buffers, TPAs generally look more similar to the ½-mile circular buffers.

access walk as much (or more than) residents within 1 mile of a stop but who live in lower density areas. The deviation in bicycle shares for both trip purposes across the different groups is much smaller, though bike shares tend to be marginally higher for residents with 1-mile access. Prior to performing the analysis, the expectation was that bus shares would also increase once residents were parsed by TPAs. However, the results do not confirm this as average bus shares for the within 1-mile group are actually a bit lower than for the rail/ferry only group. This is likely due to the dilution of the 1-mile sample to include individuals who fall within a TPA but who do not actually have 1-mile walk access along the street network to a high-quality bus line.

Table R1. BATS2000 Mode Shares by Trip Purpose and Proximity to High-Quality Bus Lines, Rail and Ferry Stops

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
MODE SHARES								
<i>Home-Based Work</i>								
Total Transit	24.8%	12.3%	13.7%	12.4%	7.2%	7.2%	4.0%	12.2%
Rail and Ferry	13.1%	8.8%	11.4%	6.6%	4.2%	5.2%	3.3%	7.3%
Bus	11.7%	3.5%	2.2%	5.8%	3.0%	1.9%	0.8%	4.8%
Bicycle	3.3%	2.1%	3.1%	0.8%	1.0%	1.6%	0.5%	1.8%
Walk	8.9%	2.5%	3.0%	2.4%	1.7%	1.8%	1.2%	3.4%
<i>Non-Work Trips</i>								
Total Transit	12.7%	3.3%	3.3%	4.8%	2.2%	1.8%	1.2%	4.4%
Rail and Ferry	3.8%	2.0%	2.5%	1.7%	0.7%	1.0%	0.2%	1.6%
Bus	8.9%	1.3%	0.8%	3.2%	1.5%	0.8%	0.9%	2.8%
Bicycle	1.9%	2.1%	1.8%	1.5%	1.0%	1.2%	0.6%	1.4%
Walk	21.1%	11.4%	15.4%	15.0%	9.9%	8.4%	5.8%	12.3%
<i>Total Trips</i>								
Total Transit	15.6%	5.5%	5.9%	6.6%	3.3%	2.8%	1.7%	6.2%
Rail and Ferry	6.0%	3.7%	4.7%	2.9%	1.5%	1.8%	0.8%	2.9%
Bus	9.6%	1.9%	1.2%	3.8%	1.8%	1.0%	0.9%	3.3%
Bicycle	2.2%	2.1%	2.1%	1.3%	1.0%	1.3%	0.6%	1.5%
Walk	18.1%	9.2%	12.3%	12.0%	8.1%	7.1%	4.9%	10.3%

Source: Bay Area Travel Survey 2000

Mode Shares by Age Category

Another aspect of interest regarding station area living deals with travel patterns of seniors. Do these individuals travel differently than seniors living outside of station areas? Further, do seniors in station areas travel differently than younger people living near a station? Results in Table R2 begin to address this question. Since few seniors surveyed in BATS2000 made work trips, particularly when parsed by the distance/density groups, the focus of this section is non-work trips (see Tables R12 through R14 for more detail). Note that this analysis is based on the six distance/density categories developed around rail and ferry stops only (not the TPA analysis discussed in the previous section).

First, comparing station area seniors to persons 65 and over living more than 1 mile from rail/ferry, indicates that seniors in station areas do make more transit and non-motorized trips than their counterparts living further from rail/ferry. When persons 65 and older are compared to persons between 18 and 64 a few differences as well as a few key similarities emerge. First, residents 65 and over have slightly higher in-vehicle (vehicle driver and vehicle passenger) shares across the six distance/density groups. However, seniors are much more likely than younger persons to be passengers. Transit shares for the different age groups are roughly the same across distance/density categories though non-work bus shares for ½-mile seniors are about 5% higher than 18-64 year olds in the ½-mile group. Bicycle shares for seniors are much lower than for 18-64 year olds, but walk shares for the two age groups are about the same. The exception is for station area residents. Half-mile residents between 18 and 64 have much higher walk shares than ½-mile seniors (26% vs. 15%) while the reverse is true for the ½-mile to 1-mile group. Seniors between ½-mile and 1-mile have larger non-work walk shares than their younger counterparts (23% vs. 15%).

Table R2. Non-Work Trip Shares by Age Group and Proximity to Rail/Ferry Stops

Travel Characteristic	Proximity of Household to Rail Stations and Ferry Terminals						Total
	Within 1/2 mile	1/2 mile to 1 mile	Greater than 1 mile				
			Urban	High-Sub	Low-Sub	Rural	
MODE SHARES							
<i>Non-Work Trips, Ages 18 to 64</i>							
In-Vehicle Person	54.7%	74.9%	79.4%	89.1%	89.6%	92.6%	81.7%
Vehicle Driver	44.9%	63.8%	69.0%	77.9%	79.6%	83.1%	71.3%
Vehicle Passenger	9.9%	11.1%	10.4%	11.1%	10.1%	9.5%	10.4%
Total Transit	14.9%	6.7%	5.8%	2.2%	1.8%	0.8%	4.8%
Rail and Ferry	6.3%	3.8%	2.0%	0.9%	1.1%	0.3%	2.2%
Bus	8.6%	2.9%	3.8%	1.4%	0.7%	0.5%	2.6%
Bicycle	2.5%	2.4%	0.9%	0.8%	1.1%	0.4%	1.3%
Walk	25.8%	15.1%	11.5%	7.1%	7.0%	5.6%	11.1%
Other	2.0%	0.9%	2.5%	0.8%	0.4%	0.6%	1.1%
<i>Non-Work Trips, Ages 65 and over</i>							
In-Vehicle Person	66.3%	70.3%	76.3%	84.8%	90.3%	93.3%	83.6%
Vehicle Driver	53.5%	52.9%	57.8%	64.5%	76.3%	72.9%	66.8%
Vehicle Passenger	12.8%	17.4%	18.5%	20.3%	14.0%	20.4%	16.8%
Total Transit	15.6%	5.7%	6.5%	2.2%	1.5%	0.2%	3.7%
Rail and Ferry	2.1%	2.6%	2.3%	1.0%	0.8%	0.2%	1.2%
Bus	13.5%	3.1%	4.2%	1.2%	0.7%	0.0%	2.4%
Bicycle	0.5%	1.0%	0.6%	0.2%	0.3%	0.3%	0.4%
Walk	14.7%	22.5%	16.4%	12.0%	6.6%	5.9%	11.3%
Other	2.9%	0.5%	0.3%	0.8%	1.3%	0.3%	1.0%

Source: Bay Area Travel Survey 2000

Mode Shares by Ratio of Jobs-to-population near Rail/Ferry Stations

One research question posed during this work was the impact on mode shares of the level of mixed use surrounding a rail/ferry station. Mix of uses was captured in this study using the ratio of jobs-to-population in the ½-mile area surrounding the rail/ferry station. The hypothesis for this mixed-use analysis was that non-motorized shares would be higher for stations with higher jobs-to-population ratios (i.e., areas with a greater mix of employment and residences).

To test this hypothesis, the jobs-to-population ratio was calculated for each of the rail/ferry stations being analyzed (the procedures used to calculate this ratio are described in Appendix G). Each station area household was then assigned the jobs-to-population ratio of the nearest rail/ferry station. The jobs-to-population ratio for the stations ranged from 0 to 7656 jobs per person. The average value was 42 jobs per person while the median was 0.583. Based on these statistics, four quartiles were developed for the jobs-to-population ratio. Travel characteristics were then examined by this mixed-use measure. Again, the hypothesis was that as the ratio of jobs-to-population increased, non-motorized shares would also increase. There was no working hypothesis for transit shares based on this measure of mixed-use. Table R3 provides results of the analysis.

Results in Table R3 suggest that the jobs-to-population ratio may not be the best way to capture the impact of the level of mixed uses surrounding a station. Walk shares for work and non-work trips are lowest for the group with the lowest mix of jobs-to-population (0 to 0.238 jobs per person). However, walk shares are not statistically significantly different for the remaining three groups. For work trips there is variation in walk shares for the more mixed used stations (18.2%, 11.9%, and 15.5%). However, statistically speaking, the 18.2 % walk share is not different from the 15.5% walk share, and the 11.9% is not significantly different from the 15.5% walk share. Bicycle shares show somewhat similar results, except in the case of work trips, bike shares for residents near stations with the lowest mixed use level are statistically the same as residents living near stations with the highest mixed use level (5.8% versus 8.3%). For non-work trips, there is no difference in bicycle or walk shares for the three groups with the highest jobs-to-population ratios.

These results should not be understood to imply that there is no relationship between station area residents' travel and the level of mixed-uses near the station. It simply suggests that the jobs-to-population ratio is perhaps not the best measure of mixed-uses. Additional analysis using different measures or data should be explored.

Table R3. Mode Shares by Trip Purpose and Jobs-to-population Ratio of Station Area for Residents Living within 1/2 mile of Rail/Ferry Stops

Travel Characteristic	Jobs to Population Ratio of 1/2-Mile Area Surrounding Rail/Ferry Stop				Total
	0 to 0.238	0.239 to 0.583	0.584 to 2.746	Greater than 2.746	
MODE SHARES					
<i>Home-Based Work</i>					
Vehicle Driver/Pssgr.	57.3%	46.7%	55.9%	45.4%	52.6%
Total Transit	29.6%	31.9%	27.8%	26.4%	29.4%
Bicycle	5.8%	2.0%	2.8%	8.3%	4.1%
Walk	5.5%	18.2%	11.9%	15.5%	12.0%
Other	1.9%	1.2%	1.5%	4.4%	1.8%
<i>Non-Work Trips</i>					
Vehicle Driver/Pssgr.	64.7%	55.9%	54.9%	39.6%	56.1%
Total Transit	13.9%	12.6%	14.2%	31.4%	16.0%
Bicycle	0.9%	2.9%	2.1%	2.8%	2.1%
Walk	17.1%	26.1%	24.5%	24.5%	22.7%
Other	3.4%	2.6%	4.2%	1.8%	3.1%

Source: Bay Area Travel Survey 2000

Table R4. SAMPLE Distribution of BATS2000 Households and Residents by Proximity to High-Quality Bus Lines and Rail/Ferry Stops

Proximity of Household to High-Quality Bus Lines, Rail Stations and Ferry Terminals	Population Density	Households		Residents	
		Number	Percent	Number	Percent
Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop	Urban	2,444	16%	4,661	13%
	High-Suburban	1,136	8%	2,497	7%
	Low-Suburban/Rural	659	4%	1,396	4%
Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop	Urban	1,703	11%	3,771	11%
	High-Suburban	2,922	19%	7,128	21%
	Low-Suburban	5,058	34%	12,370	36%
	Rural	1,142	8%	2,857	8%
	Total	15,064	100%	34,680	100%

Table R5. WEIGHTED Distribution of BATS2000 Households and Residents by Proximity to High-Quality Bus Lines and Rail/Ferry Stops

Proximity of Household to High-Quality Bus Lines, Rail Stations and Ferry Terminals	Population Density	Households		Residents	
		Number	Percent	Number	Percent
Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop	Urban	533,828	22%	1,316,261	20%
	High-Suburban	185,243	8%	469,699	7%
	Low-Suburban/Rural	105,862	4%	243,640	4%
More than 1 mile from High-Quality Bus Line or Rail/Ferry Stop	Urban	358,254	15%	1,021,294	15%
	High-Suburban	459,891	19%	1,300,685	20%
	Low-Suburban	675,641	27%	1,860,913	28%
	Rural	147,301	6%	428,568	6%
	Total	2,466,020	100%	6,641,060	100%

Table R6. BATS2000 Mode Shares by Trip Purpose and Proximity to High-Quality Bus Lines, Rail

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
MODE SHARES								
<i>Home-Based Work</i>								
In-Vehicle Person	61.5%	81.5%	79.4%	82.6%	89.8%	88.9%	94.1%	81.7%
Vehicle Driver	53.0%	74.7%	72.2%	74.8%	82.9%	83.9%	88.6%	74.9%
Vehicle Passenger	8.6%	6.9%	7.2%	7.9%	6.8%	5.0%	5.5%	6.8%
Total Transit	24.8%	12.3%	13.7%	12.4%	7.2%	7.2%	4.0%	12.2%
Rail and Ferry	13.1%	8.8%	11.4%	6.6%	4.2%	5.2%	3.3%	7.3%
Bus	11.7%	3.5%	2.2%	5.8%	3.0%	1.9%	0.8%	4.8%
Bicycle	3.3%	2.1%	3.1%	0.8%	1.0%	1.6%	0.5%	1.8%
Walk	8.9%	2.5%	3.0%	2.4%	1.7%	1.8%	1.2%	3.4%
Other	1.5%	1.5%	0.9%	1.8%	0.4%	0.5%	0.2%	1.0%
<i>Non-Work Trips</i>								
In-Vehicle Person	61.7%	80.5%	78.3%	74.7%	84.8%	87.2%	88.9%	79.5%
Vehicle Driver	38.3%	52.0%	49.7%	44.8%	52.1%	56.4%	57.1%	50.0%
Vehicle Passenger	23.4%	28.5%	28.6%	29.9%	32.6%	30.8%	31.9%	29.5%
Total Transit	12.7%	3.3%	3.3%	4.8%	2.2%	1.8%	1.2%	4.4%
Rail and Ferry	3.8%	2.0%	2.5%	1.7%	0.7%	1.0%	0.2%	1.6%
Bus	8.9%	1.3%	0.8%	3.2%	1.5%	0.8%	0.9%	2.8%
Bicycle	1.9%	2.1%	1.8%	1.5%	1.0%	1.2%	0.6%	1.4%
Walk	21.1%	11.4%	15.4%	15.0%	9.9%	8.4%	5.8%	12.3%
Other	2.6%	2.6%	1.2%	4.0%	2.2%	1.4%	3.5%	2.4%
<i>Total Trips</i>								
In-Vehicle Person	61.7%	80.8%	78.6%	76.6%	85.9%	87.6%	89.9%	80.0%
Vehicle Driver	41.9%	57.6%	55.3%	51.9%	58.9%	61.8%	63.2%	55.5%
Vehicle Passenger	19.8%	23.2%	23.3%	24.6%	27.0%	25.7%	26.7%	24.5%
Total Transit	15.6%	5.5%	5.9%	6.6%	3.3%	2.8%	1.7%	6.2%
Rail and Ferry	6.0%	3.7%	4.7%	2.9%	1.5%	1.8%	0.8%	2.9%
Bus	9.6%	1.9%	1.2%	3.8%	1.8%	1.0%	0.9%	3.3%
Bicycle	2.2%	2.1%	2.1%	1.3%	1.0%	1.3%	0.6%	1.5%
Walk	18.1%	9.2%	12.3%	12.0%	8.1%	7.1%	4.9%	10.3%
Other	2.4%	2.4%	1.1%	3.5%	1.8%	1.2%	2.9%	2.1%

Table R7. BATS2000 Trips by Mode, Trip Purpose, and Proximity to High-Quality Bus Lines, Rail

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
WEIGHTED TRIPS								
<i>Home-Based Work</i>								
In-Vehicle Person	588,807	288,257	155,681	602,816	807,881	1,074,373	239,281	3,757,097
Vehicle Driver	506,796	264,002	141,581	545,371	746,335	1,013,873	225,396	3,443,355
Vehicle Passenger	82,011	24,255	14,101	57,445	61,546	60,500	13,885	313,742
Total Transit	237,276	43,334	26,772	90,136	64,365	86,730	10,242	558,854
Rail and Ferry	125,782	30,977	22,364	48,117	37,810	63,277	8,292	336,619
Bus	111,494	12,357	4,408	42,019	26,555	23,453	1,950	222,235
Bicycle	32,054	7,470	5,991	6,032	8,644	19,762	1,156	81,109
Walk	84,779	8,960	5,874	17,550	15,672	22,097	3,168	158,101
Other	14,030	5,465	1,794	12,852	3,190	5,932	451	43,714
Total	956,947	353,487	196,111	729,386	899,752	1,208,894	254,297	4,598,874
<i>Non-Work Trips</i>								
In-Vehicle Person	1,864,041	863,712	463,199	1,737,507	2,730,286	4,299,195	929,873	12,887,812
Vehicle Driver	1,157,797	557,838	294,013	1,042,123	1,678,808	2,780,518	596,731	8,107,829
Vehicle Passenger	706,244	305,873	169,186	695,384	1,051,478	1,518,676	333,141	4,779,983
Total Transit	382,996	35,404	19,659	112,787	70,272	87,414	12,204	720,736
Rail and Ferry	113,746	21,129	15,005	39,142	22,643	47,557	2,585	261,807
Bus	269,250	14,275	4,654	73,645	47,629	39,857	9,619	458,929
Bicycle	57,308	23,036	10,723	34,222	30,802	60,709	6,052	222,852
Walk	635,738	122,004	90,906	348,210	318,474	411,886	61,114	1,988,332
Other	79,974	28,382	6,817	94,163	71,182	68,603	36,704	385,823
Total	3,020,057	1,072,538	591,304	2,326,889	3,221,015	4,927,806	1,045,946	16,205,555
<i>Total Trips</i>								
In-Vehicle Person	2,452,848	1,151,969	618,880	2,340,323	3,538,167	5,373,568	1,169,154	16,644,909
Vehicle Driver	1,664,593	821,840	435,594	1,587,494	2,425,144	3,794,391	822,128	11,551,184
Vehicle Passenger	788,255	330,128	183,287	752,829	1,113,024	1,579,177	347,027	5,093,726
Total Transit	620,272	78,737	46,431	202,923	134,637	174,144	22,445	1,279,589
Rail and Ferry	239,528	52,106	37,369	87,259	60,453	110,834	10,876	598,425
Bus	380,745	26,631	9,062	115,663	74,183	63,310	11,569	681,164
Bicycle	89,362	30,507	16,714	40,254	39,446	80,471	7,208	303,961
Walk	720,518	130,965	96,780	365,760	334,146	433,983	64,281	2,146,433
Other	94,004	33,847	8,610	107,015	74,372	74,534	37,155	429,537
Total	3,977,004	1,426,025	787,415	3,056,275	4,120,767	6,136,700	1,300,243	20,804,429

Table R8. BATS2000 Trips by Mode, Trip Purpose, and Proximity to High-Quality Bus Lines, Rail

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
SAMPLE TRIPS								
<i>Home-Based Work</i>								
In-Vehicle Person	4,466	2,979	1,631	4,352	8,271	13,288	2,868	37,855
Vehicle Driver	4,062	2,806	1,500	4,067	7,835	12,598	2,706	35,574
Vehicle Passenger	404	173	131	285	436	690	162	2,281
Total Transit	1,513	359	221	573	466	995	106	4,233
Rail and Ferry	947	284	179	343	326	737	78	2,894
Bus	566	75	42	230	140	258	28	1,339
Bicycle	215	97	43	78	109	180	11	733
Walk	557	103	63	101	171	246	36	1,277
Other	108	31	17	50	43	63	9	321
Total	6,859	3,569	1,975	5,154	9,060	14,772	3,030	44,419
<i>Non-Work Trips</i>								
In-Vehicle Person	13,846	9,257	5,232	12,696	28,425	51,905	11,611	132,972
Vehicle Driver	9,900	6,556	3,626	8,738	19,363	35,886	8,109	92,178
Vehicle Passenger	3,946	2,701	1,606	3,958	9,062	16,019	3,502	40,794
Total Transit	1,735	275	137	549	474	753	96	4,019
Rail and Ferry	792	173	95	237	242	436	50	2,025
Bus	943	102	42	312	232	317	46	1,994
Bicycle	511	197	79	251	317	567	68	1,990
Walk	4,668	1,200	687	1,818	2,619	4,135	634	15,761
Other	376	155	65	238	391	680	252	2,157
Total	21,136	11,084	6,200	15,552	32,226	58,040	12,661	156,899
<i>Total Trips</i>								
In-Vehicle Person	18,312	12,236	6,863	17,048	36,696	65,193	14,479	170,827
Vehicle Driver	13,962	9,362	5,126	12,805	27,198	48,484	10,815	127,752
Vehicle Passenger	4,350	2,874	1,737	4,243	9,498	16,709	3,664	43,075
Total Transit	3,248	634	358	1,122	940	1,748	202	8,252
Rail and Ferry	1,739	457	274	580	568	1,173	128	4,919
Bus	1,509	177	84	542	372	575	74	3,333
Bicycle	726	294	122	329	426	747	79	2,723
Walk	5,225	1,303	750	1,919	2,790	4,381	670	17,038
Other	484	186	82	288	434	743	261	2,478
Total	27,995	14,653	8,175	20,706	41,286	72,812	15,691	201,318

Table R9. BATS2000 Trips by Mode, Trip Purpose, and Proximity to High-Quality Bus Lines, Rail

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
SAMPLE TRIP MAKERS								
Home-Based Work	2,542	1,262	705	1,868	3,269	5,365	1,156	16,167
Non-Work Trips	3,753	1,998	1,131	2,978	5,764	10,241	2,264	28,129
Total Trips	4,308	2,302	1,304	3,489	6,554	11,425	2,546	31,928

Table R10. BATS2000 Household Trip Rates and Transit Use by Proximity to High-Quality Bus Lines, Rail and Ferries

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
TRIP RATES								
Vehicle Driver Trips per Household	3.118	4.437	4.115	4.431	5.273	5.616	5.581	4.684
Transit Trips per Household	1.162	0.425	0.439	0.566	0.293	0.258	0.152	0.519
Bicycle Trips per Household	0.167	0.165	0.158	0.112	0.086	0.119	0.049	0.123
Walk Trips per Household	1.350	0.707	0.914	1.021	0.727	0.642	0.436	0.870
Total Trips per Household	7.450	7.698	7.438	8.531	8.960	9.083	8.827	8.436
TRANSIT USE								
Percent of Households Using Transit During Two-Day Survey Period	42.0%	21.5%	21.3%	27.7%	15.0%	14.1%	6.7%	22.7%

Table R11. BATS2000 Per Capita Trip Rates and Transit Use by Proximity to High-Quality Bus Lines, Rail and Ferries

Travel Characteristic	Within 1 mile of High-Quality Bus Line or Rail/Ferry Stop			Greater than 1 mile from High-Quality Bus Line or Rail/Ferry Stop				Total
	Urban	High-Sub	Low-Sub/ Rural	Urban	High-Sub	Low-Sub	Rural	
TRIP RATES								
Vehicle Driver Trips per Person	1.265	1.750	1.788	1.554	1.865	2.039	1.918	1.739
Transit Trips per Person	0.471	0.168	0.191	0.199	0.104	0.094	0.052	0.193
Bicycle Trips per Person	0.068	0.065	0.069	0.039	0.030	0.043	0.017	0.046
Walk Trips per Person	0.547	0.279	0.397	0.358	0.257	0.233	0.150	0.323
Total Trips per Person	3.021	3.036	3.232	2.993	3.168	3.298	3.034	3.133
TRANSIT USE								
Percent of Population Using Transit During Two-Day Survey Period	26.5%	10.3%	11.7%	12.5%	7.2%	6.2%	3.2%	11.7%

Table R12. BATS2000 Mode Shares by Age Category, Trip Purpose and Proximity to Rail and Ferry Terminals

Travel Characteristic	Proximity of Household to Rail Stations and Ferry Terminals						Total
	Within 1/2 mile	1/2 mile to 1 mile	Greater than 1 mile				
			Urban	High-Sub	Low-Sub	Rural	
MODE SHARES							
Home-Based Work Trips, Ages 18 to 64							
In-Vehicle Person	52.0%	75.0%	82.0%	89.7%	88.9%	93.9%	81.6%
Vehicle Driver	45.6%	66.2%	74.9%	83.3%	84.5%	90.0%	75.3%
Vehicle Passenger	6.4%	8.8%	7.1%	6.4%	4.5%	4.0%	6.2%
Total Transit	29.8%	16.5%	13.1%	7.4%	7.5%	4.3%	12.4%
Rail and Ferry	16.2%	11.6%	6.8%	4.2%	5.5%	3.5%	7.6%
Bus	13.6%	4.9%	6.3%	3.1%	1.9%	0.8%	4.8%
Bicycle	4.1%	2.8%	0.8%	1.1%	1.7%	0.4%	1.8%
Walk	12.3%	4.4%	2.3%	1.5%	1.5%	1.2%	3.4%
Other	1.8%	1.3%	1.7%	0.3%	0.4%	0.2%	0.9%
Home-Based Work Trips, Ages 65 and over							
In-Vehicle Person	63.5%	67.8%	83.5%	95.8%	93.5%	97.3%	88.2%
Vehicle Driver	61.4%	64.2%	66.3%	90.2%	87.8%	66.5%	80.0%
Vehicle Passenger	2.1%	3.7%	17.2%	5.6%	5.7%	30.8%	8.2%
Total Transit	23.4%	24.3%	12.1%	0.7%	2.4%	1.5%	6.9%
Rail and Ferry	5.1%	3.5%	7.7%	0.3%	1.7%	0.0%	2.3%
Bus	18.3%	20.8%	4.4%	0.4%	0.7%	1.5%	4.6%
Bicycle	0.0%	6.0%	3.0%	0.3%	0.4%	0.0%	1.1%
Walk	9.3%	1.3%	1.3%	2.8%	1.9%	1.2%	2.6%
Other	3.8%	0.6%	0.0%	0.4%	1.8%	0.0%	1.2%
Non-Work Trips, Ages 18 to 64							
In-Vehicle Person	54.7%	74.9%	79.4%	89.1%	89.6%	92.6%	81.7%
Vehicle Driver	44.9%	63.8%	69.0%	77.9%	79.6%	83.1%	71.3%
Vehicle Passenger	9.9%	11.1%	10.4%	11.1%	10.1%	9.5%	10.4%
Total Transit	14.9%	6.7%	5.8%	2.2%	1.8%	0.8%	4.8%
Rail and Ferry	6.3%	3.8%	2.0%	0.9%	1.1%	0.3%	2.2%
Bus	8.6%	2.9%	3.8%	1.4%	0.7%	0.5%	2.6%
Bicycle	2.5%	2.4%	0.9%	0.8%	1.1%	0.4%	1.3%
Walk	25.8%	15.1%	11.5%	7.1%	7.0%	5.6%	11.1%
Other	2.0%	0.9%	2.5%	0.8%	0.4%	0.6%	1.1%
Non-Work Trips, Ages 65 and over							
In-Vehicle Person	66.3%	70.3%	76.3%	84.8%	90.3%	93.3%	83.6%
Vehicle Driver	53.5%	52.9%	57.8%	64.5%	76.3%	72.9%	66.8%
Vehicle Passenger	12.8%	17.4%	18.5%	20.3%	14.0%	20.4%	16.8%
Total Transit	15.6%	5.7%	6.5%	2.2%	1.5%	0.2%	3.7%
Rail and Ferry	2.1%	2.6%	2.3%	1.0%	0.8%	0.2%	1.2%
Bus	13.5%	3.1%	4.2%	1.2%	0.7%	0.0%	2.4%
Bicycle	0.5%	1.0%	0.6%	0.2%	0.3%	0.3%	0.4%
Walk	14.7%	22.5%	16.4%	12.0%	6.6%	5.9%	11.3%
Other	2.9%	0.5%	0.3%	0.8%	1.3%	0.3%	1.0%

Note: Shaded cells denote insufficient sample size.

Table R13. BATS2000 Mode Shares by Age Category, Trip Purpose and Proximity to Rail and Ferry Terminals

Travel Characteristic	Proximity of Household to Rail Stations and Ferry Terminals						Total
	Within 1/2 mile	1/2 mile to 1 mile	Greater than 1 mile				
			Urban	High-Sub	Low-Sub	Rural	
WEIGHTED TRIPS							
Home-Based Work Trips, Ages 18 to 64							
In-Vehicle Person	270,183	494,377	693,255	838,805	1,056,767	227,276	3,580,666
Vehicle Driver	236,772	436,381	633,028	779,217	1,003,626	217,712	3,306,735
Vehicle Passenger	33,412	57,996	60,227	59,588	53,141	9,564	273,928
Total Transit	154,580	108,902	110,834	69,112	88,689	10,406	542,523
Rail and Ferry	84,073	76,532	57,622	39,729	65,647	8,554	332,157
Bus	70,507	32,370	53,212	29,383	23,042	1,852	210,365
Bicycle	21,190	18,659	7,012	10,173	20,163	1,008	78,205
Walk	63,949	28,837	19,793	14,393	17,314	2,856	147,142
Other	9,185	8,524	14,625	2,878	5,265	451	40,930
	519,088	659,300	845,519	935,361	1,188,198	241,997	4,389,463
Home-Based Work Trips, Ages 65 and over							
In-Vehicle Person	4,531	5,988	6,610	19,404	31,653	6,516	74,702
Vehicle Driver	4,379	5,664	5,248	18,275	29,738	4,451	67,756
Vehicle Passenger	151	324	1,362	1,129	1,915	2,065	6,946
Total Transit	1,668	2,143	959	151	812	97	5,830
Rail and Ferry	366	307	610	60	583	0	1,926
Bus	1,301	1,836	349	90	230	97	3,903
Bicycle	0	533	240	51	147	0	970
Walk	662	111	103	560	648	81	2,164
Other	270	53	0	86	599	0	1,007
	7,130	8,827	7,912	20,251	33,858	6,695	84,674
Non-Work Trips, Ages 18 to 64							
In-Vehicle Person	657,099	1,035,832	1,313,882	1,796,871	2,708,565	568,844	8,081,094
Vehicle Driver	538,628	882,907	1,141,454	1,572,780	2,404,602	510,782	7,051,153
Vehicle Passenger	118,471	152,926	172,428	224,092	303,963	58,063	1,029,942
Total Transit	178,973	92,711	95,379	45,285	54,671	5,080	472,099
Rail and Ferry	75,496	51,939	32,350	18,007	33,485	1,865	213,141
Bus	103,476	40,773	63,029	27,279	21,186	3,215	258,958
Bicycle	30,028	33,199	14,201	15,933	33,613	2,693	129,668
Walk	309,900	208,752	189,871	143,466	210,996	34,412	1,097,396
Other	24,359	13,003	40,894	16,218	13,457	3,382	111,313
	1,200,359	1,383,498	1,654,227	2,017,774	3,021,302	614,411	9,891,570
Non-Work Trips, Ages 65 and over							
In-Vehicle Person	59,031	81,038	110,487	237,371	407,354	79,203	974,485
Vehicle Driver	47,656	60,996	83,649	180,513	343,999	61,886	778,699
Vehicle Passenger	11,375	20,042	26,838	56,858	63,355	17,318	195,786
Total Transit	13,885	6,570	9,407	6,115	6,914	145	43,034
Rail and Ferry	1,861	2,963	3,277	2,711	3,543	145	14,500
Bus	12,023	3,607	6,130	3,404	3,370	0	28,534
Bicycle	449	1,159	801	693	1,271	257	4,630
Walk	13,129	25,949	23,678	33,556	29,881	4,990	131,182
Other	2,598	565	384	2,216	5,687	275	11,725
Total	89,092	115,280	144,757	279,950	451,107	84,870	1,165,056

Note: Shaded cells denote insufficient sample size.

Table R14. BATS2000 Sample Trip Makers by Age Category, Trip Purpose and Proximity to

Travel Characteristic	Proximity of Household to Rail Stations and Ferry Terminals						Total
	Within 1/2 mile	1/2 mile to 1 mile	Greater than 1 mile				
			Urban	High-Sub	Low-Sub	Rural	
<i>Home-Based WorkTrips</i>							
Ages 18 to 64	1,380	2,063	2,154	3,318	5,160	1,072	15,147
Ages 65 and over	32	49	43	134	223	46	527
<i>Non-Work Trips</i>							
Ages 18 to 64	1,689	2,545	2,577	4,183	6,837	1,546	19,377
Ages 65 and over	202	319	331	821	1,609	341	3,623

Note: Shaded cells denote insufficient sample size.

Table R15. Work, Non-Work, and Total Trip Mode Shares for Residents within 1/2 mile of a Rail/Ferry Station by Jobs to Population Ratio of Station Area

Travel Characteristic	Jobs to Population Ratio of 1/2-Mile Area Surrounding Rail/Ferry Stop				Total
	0 to 0.238	0.239 to 0.583	0.584 to 2.746	Greater than 2.746	
MODE SHARES					
<i>Home-Based Work</i>					
In-Vehicle Person	57.3%	46.7%	55.9%	45.4%	52.6%
Vehicle Driver	51.1%	40.7%	47.3%	40.7%	45.9%
Vehicle Passenger	6.2%	6.0%	8.6%	4.7%	6.7%
Total Transit	29.6%	31.9%	27.8%	26.4%	29.4%
Rail and Ferry	19.0%	18.8%	11.3%	10.2%	15.8%
Bus	10.7%	13.1%	16.5%	16.2%	13.6%
Bicycle	5.8%	2.0%	2.8%	8.3%	4.1%
Walk	5.5%	18.2%	11.9%	15.5%	12.0%
Other	1.9%	1.2%	1.5%	4.4%	1.8%
<i>Non-Work Trips</i>					
In-Vehicle Person	64.7%	55.9%	54.9%	39.6%	56.1%
Vehicle Driver	37.7%	33.6%	37.1%	28.7%	35.0%
Vehicle Passenger	27.0%	22.2%	17.8%	11.0%	21.1%
Total Transit	13.9%	12.6%	14.2%	31.4%	16.0%
Rail and Ferry	5.2%	5.2%	5.3%	2.6%	4.9%
Bus	8.7%	7.4%	8.9%	28.7%	11.1%
Bicycle	0.9%	2.9%	2.1%	2.8%	2.1%
Walk	17.1%	26.1%	24.5%	24.5%	22.7%
Other	3.4%	2.6%	4.2%	1.8%	3.1%
<i>Total Trips</i>					
In-Vehicle Person	62.9%	53.8%	55.2%	40.7%	55.3%
Vehicle Driver	41.0%	35.2%	40.0%	31.0%	37.6%
Vehicle Passenger	21.9%	18.6%	15.2%	9.8%	17.7%
Total Transit	17.7%	16.9%	18.1%	30.4%	19.2%
Rail and Ferry	8.5%	8.3%	7.0%	4.1%	7.5%
Bus	9.2%	8.6%	11.1%	26.3%	11.7%
Bicycle	2.1%	2.7%	2.3%	3.8%	2.6%
Walk	14.3%	24.4%	21.0%	22.8%	20.1%
Other	3.0%	2.3%	3.4%	2.3%	2.8%

Table R16. Work, Non-Work, and Total Weighted Trips for Residents within 1/2 mile of a Rail/Ferry Station by Jobs to Population Ratio of Station Area

Travel Characteristic	Jobs to Population Ratio of 1/2-Mile Area Surrounding Rail/Ferry Stop				Total
	0 to 0.238	0.239 to 0.583	0.584 to 2.746	Greater than 2.746	
WEIGHTED TRIPS					
<i>Home-Based Work</i>					
In-Vehicle Person	98,098	71,966	86,849	25,536	282,448
Vehicle Driver	87,519	62,690	73,447	22,902	246,558
Vehicle Passenger	10,579	9,276	13,402	2,634	35,890
Total Transit	50,703	49,168	43,240	14,824	157,934
Rail and Ferry	32,464	28,983	17,555	5,706	84,709
Bus	18,238	20,184	25,685	9,118	73,226
Bicycle	9,900	3,092	4,386	4,670	22,047
Walk	9,347	28,018	18,514	8,732	64,611
Other	3,183	1,898	2,316	2,450	9,847
Total	171,230	154,141	155,305	56,211	536,887
<i>Non-Work Trips</i>					
In-Vehicle Person	346,480	300,363	215,485	94,216	956,545
Vehicle Driver	202,061	180,746	145,757	68,166	596,730
Vehicle Passenger	144,419	119,617	69,729	26,051	359,816
Total Transit	74,650	67,626	55,780	74,512	272,569
Rail and Ferry	27,786	28,101	20,704	6,288	82,879
Bus	46,864	39,525	35,076	68,225	189,690
Bicycle	4,888	15,378	8,351	6,595	35,212
Walk	91,705	140,482	96,344	58,160	386,690
Other	18,072	13,798	16,495	4,186	52,551
Total	535,795	537,647	392,456	237,670	1,703,568
<i>Total Trips</i>					
In-Vehicle Person	444,578	372,329	302,334	119,752	1,238,993
Vehicle Driver	289,580	243,436	219,204	91,068	843,288
Vehicle Passenger	154,998	128,893	83,130	28,684	395,706
Total Transit	125,353	116,793	99,020	89,337	430,503
Rail and Ferry	60,250	57,084	38,259	11,994	167,587
Bus	65,102	59,709	60,761	77,343	262,916
Bicycle	14,788	18,470	12,737	11,264	57,260
Walk	101,051	168,500	114,858	66,892	451,301
Other	21,255	15,696	18,811	6,636	62,398
Total	707,025	691,788	547,761	293,881	2,240,455

Table R17. Sample Persons making Work, Non-Work, and Total Trips for Residents within 1/2 mile of a Rail/Ferry Station by Jobs to Population Ratio of Station Area

Travel Characteristic	Jobs to Population Ratio of 1/2-Mile Area Surrounding Rail/Ferry Stop				Total
	0 to 0.238	0.239 to 0.583	0.584 to 2.746	Greater than 2.746	
SAMPLE PERSONS					
Home-Based Work	455	420	428	145	1,448
Non-Work Trips	664	653	598	217	2,132
Total Trips	780	724	687	241	2,432